

## Non-Floating Oil Guidance

The first step in meeting the non-floating oil requirement is to assess the types of oils listed in your plan and [identify which oils may sink or submerge](#) because their densities are heavier than water or may become denser the longer they remain in the water. This would include:

- Crude oils.
- Heavy fuel oils.
- Vacuum gas oil.
- Used and waste oils.
- Asphalt and asphalt products.
- Decant oil.

If non-floating oils are identified in your plan, the plan should describe how initial assessment is conducted, meet the equipment standards described in the rule and include a description of the process for detecting, delineating, and recovering non-floating oils in the areas that may be impacted (you may cite the NWACP in meeting this part of the requirements).

## Key Elements of your NFO Update

Your NFO plan update should contain:

1. A detailed list of oil products handled. The oil products table should include the oil product information detailed the applicable general contingency plan content for the plan holder type. Once the table meets the requirements for listing oil information in the plan (WAC 173-182-230), the table should be updated to identify any oils that align with the new definition of potentially non-floating (WAC 173-182-030(31)).
2. A short narrative description for how the plan holder will initiate the 1 hour non-floating oil assessment and consultation. The narrative should include who is responsible for initiating the assessment and how the potential for the oil to sink will be evaluated. The assessment may be low tech. Such as checking if the oil spilled is identified as potentially non-floating in the plan. Or may include details about how the plan holder will use environmental factors (i.e. density of the receiving waters), the chemical properties of the oil released, or other indicators to begin a non-floating oil assessment. Essentially, what are the questions to ask in order to identify the need for non-floating oil personnel and equipment to be mobilized if it will be needed during the response?

3. Identify the contractor relied upon on to meet the personnel and equipment planning standards that phase in 6-24 hours. MSRC and NRC updated their PRC applications to reflect this capability. The plan holder may reference the PRC application.
4. A narrative discussing the response tools and/or data resources that will be used to inform a response to non-floating oils. Non-floating oil response is different in process to a floating oil response. Some examples of narrative information include; aggressively responding to floating oil, tracking oil as it weathers, preparing for detection/delimitation if oil weathers and begins to go subsurface, assessing the body of water the oil was spilled into (i.e. salinity/density).

Over the past several years our response community has developed tools to support NFO responses. Available tools include:

- [NWACP Section 9412](#)
- Sunken Oil Detection and Recovery, American Petroleum Institute Technical Reports (1154-1, and 1154-2)
- [uSCAT Technical Reference Manual](#)
- [Geographic Response Plans](#) – with updated NFO and Resources at Risk information.

Your plan narrative should commit to using these tools.



# NON-FLOATING OIL PLANNING OVERVIEW 12/17/2020

# NFO PLANNING STANDARD WAC 173-182-324

What changed in the updated rules? What updates to contingency plans are required?

Identify the potentially non-floating oils covered by the plan

Include a narrative describing personnel and resources for all stages of NFO responses – Assess, detect, delineate, and recover

Describe how NFO Response Resources are accessed – Plan holder owned equipment or reference to a contracted PRC

Reference NFO Response Tools – NWACP, GRPs, API, uSCAT...

# DEFINING NON FLOATING OILS

Oils that could potentially submerge or sink, due to the oil characteristics, weathering, environmental factors, or how they were spilled. Examples include, diluted bitumen (dilbit), Group V oils, residual fuel oils, heavy fuel oils, decant, crude, asphalt, and asphalt products.

**\*\* Plans need to be updated to reflect oils that may potentially sink**





# PHASES IN A NON-FLOATING OILS RESPONSE

The plan must detail resources and personnel for the following stages of oil spill response:

**Assessment** (1 hour) Initiate an assessment and consultation regarding the potential for the spilled oil to submerge or sink

**Detection and Delineation** (6-12 hours) side scan or multibeam sonar, laser fluorosensors, induced polarization, divers, remotely operated vehicles, or other methods to locate the oil on the bottom or suspended in the water column could have arrived

**Sampling** (12-24 hours) sampling equipment to assess the impact of the spilled oil on the environment

**Recovery** (12-24 hours) dredges, submersible pumps, sorbents, agitators, or other equipment necessary to recover oil from the bottom and shoreline could have arrived

# ASSESSING THE POTENTIAL FOR THE OIL TO SINK

A narrative description for how the plan holder will initiate the 1 hour non-floating oil assessment and consultation. The narrative should include:

- Who is responsible for initiating the assessment and how the potential for the oil to sink will be evaluated?
  - The assessment may be low tech. Such as is the oil spilled identified as potentially non-floating in the plan?
  - More complex review may include a narrative that references the use of oil weathering models, environmental factors (i.e. density of the receiving waters), the chemical properties of the oil released, or other indicators to begin a non-floating oil assessment.

# NFO RESPONSE NARRATIVE

The plan must include a narrative discussing the response tools and/or data resources that will be used to inform a response to non-floating oils.

Examples of narrative content that may be included;

- Aggressively responding to floating oil
- Tracking oil as it weathers
- Preparing for detection/delimitation if oil weathers and begins to go subsurface
- Assessing the body of water the oil was spilled into (i.e. salinity/density)



# REFERENCING NFO RESPONSE TOOLS

Over the past several years our response community has developed tools to support NFO responses. Available tools include:

- [NWACP Section 9412](#)
- Sunken Oil Detection and Recovery, American Petroleum Institute Technical Reports (1154-1, abd 1154-2)
- [uSCAT Technical Reference Manual](#)
- [Geographic Response Plans](#) – All GRPs are scheduled to receive the updated NFO and Resources at Risk information by July 2021

You may choose to reference other manuals or environmental monitoring data. The plan narrative should commit to using these tools.

# OILSPILLS101

The NFO Blog on OILSPILLS101.WA.GOV is routinely updated with information on the region's NFO response posture, new tools, and Ecology's new NFO updates to GRPs.

## Recent Posts

North Central Puget Sound – Open for Public Comments

Oil Spill Exercise and Preparedness Training Videos

The New Look of GRPs in Washington!

Oil Spill Awareness and Support Training – Register Now!

Defining Potentially Non-floating Oils



## Welcome to Oil Spills 101

This site is used for registering oil spill volunteers, including for the Vessel of Opportunity Program, and oiled wildlife volunteers. Also information for the Northwest Area Contingency Plan, Geographic Response Plans and tools for drills. [Read more...](#)

[Geographic Response Plan](#)

[Vessels of Opportunity](#)

[Volunteer Registration](#)

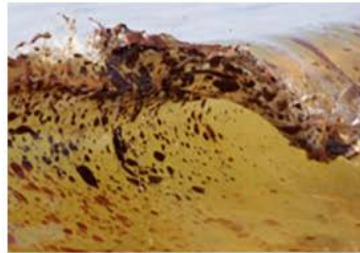
[NW Area Contingency Plan](#)



## Sign Up for Notifications

Sign up to receive emailed updates from Oil Spills 101.

[Subscribe](#)



## Non-floating oils blog

Learn more about non-floating oils.



## GRPs Open for Public Comments

North Central Puget Sound is



## Under construction

More content to come...



## Under construction

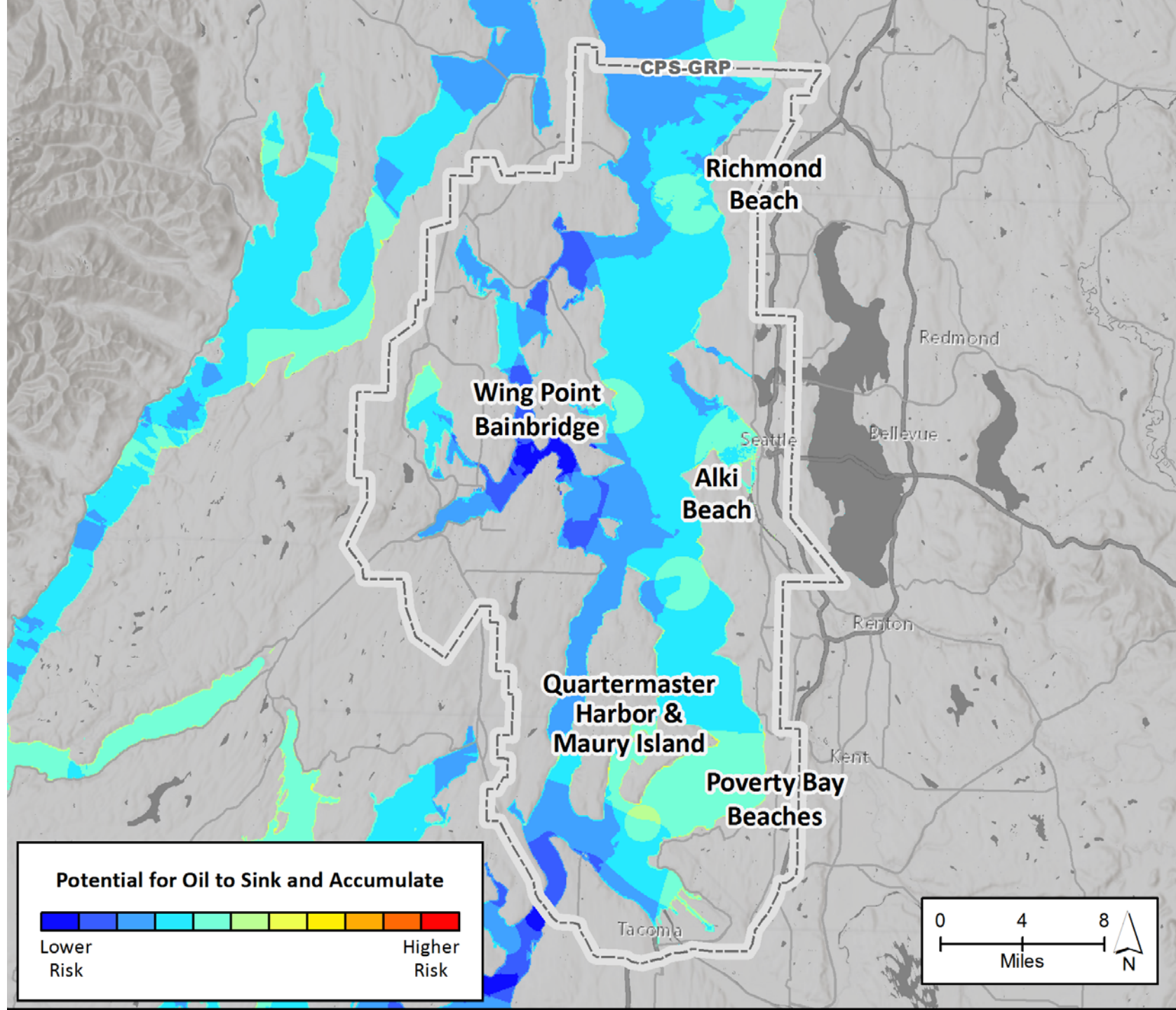
More content to come...



# NON-FLOATING OIL RISK MAP

New NFO information in GRPs -  
NFO Response Options and  
Considerations Section

Map looks at the properties of  
receiving waters including  
depths, water density, sediment  
load, currents, seafloor  
substrate types, and shoreline  
types to identify potential  
collection areas



# New NFO information in GRPs

CONDITIONS AND CONSIDERATIONS FOR NON-FLOATING OIL	Location				
	Richmond Beach	Wing Point Bainbridge	Alki Beach	Quartermaster Harbor & Maury Island	P overty Bay Beaches

Environmental conditions that impact oil weathering, sinking, or accumulating on the seafloor					
Water Density	Lower Risk	Lower Risk	Lower Risk	Lower Risk	Lower Risk
Turbidity	Lower Risk	Lower Risk	Lower Risk	Medium Risk	Medium Risk
Currents	Higher Risk	Higher Risk	Higher Risk	Higher Risk	Medium Risk
Substrate	Higher Risk	Higher Risk	Higher Risk	Higher Risk	Higher Risk
Exposed Sandy Shorelines	Medium Risk	Medium Risk	Medium Risk	Medium Risk	Medium Risk
Sinks	Lower Risk	Lower Risk	Lower Risk	Higher Risk	Lower Risk

= Higher Risk     
  = Medium Risk     
  = Lower Risk

Considerations that support the identification of sunken oil survey or recovery methods					
Maximum Depth (feet)	500	50	50	210	70
Specific Area of Concern (see Resources at Risk section)	Lower Risk	Higher Risk	Lower Risk	Higher Risk	Lower Risk
Seafloor resources present in the area					
Heritage Sites or Shipwrecks	Lower Risk	Lower Risk	Higher Risk	Higher Risk	Higher Risk
Seagrass and Kelp Beds	Higher Risk	Higher Risk	Higher Risk	Higher Risk	Higher Risk
Open Public Shellfish Harvesting	Lower Risk	Lower Risk	Lower Risk	Higher Risk	Higher Risk
Open Commercial Shellfish Harvesting	Lower Risk	Lower Risk	Lower Risk	Higher Risk	Higher Risk
Spawning Area	Higher Risk	Higher Risk	Higher Risk	Higher Risk	Higher Risk
Safety hazards present in the area					
Closed Shellfish Harvesting (Possible Contaminants)	Higher Risk	Higher Risk	Higher Risk	Lower Risk	Lower Risk
Contaminated Sediments / Superfund Site	Lower Risk	Higher Risk	Lower Risk	Lower Risk	Lower Risk
Recreational Diving Area	Higher Risk	Lower Risk	Higher Risk	Higher Risk	Higher Risk
Pipelines, Cables, Safety Hazards	Higher Risk	Lower Risk	Lower Risk	Higher Risk	Higher Risk

A table provides and overview of the various response conditions and considerations for an NFO response. Analysis is done in GRP areas at greater risk from NFO spills.



# NEW FORMAT

## Grays Harbor GRP



### Grays Harbor GRP

Open for full review: March 2021

Tentative publish date: April 2022

Interim update: July 2020

Last full updated: December 2013

Public Comment: [GRPs@ecy.wa.gov](mailto:GRPs@ecy.wa.gov)

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Spill Contact Sheet ([Download PDF](#))

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Floating Oil Response Options and Considerations  
([Download PDF](#))

Non-Floating Oil Response Options and  
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Response Strategies and Priorities (2-Pagers)  
([Download PDF](#))

[Resources at Risk](#)

### Links

[Ecology Spills Map](#)

[WA Dept. of Natural Resources](#)

### Site Description

This section provides a description of the area's physical features, hydrology, climate and winds, and tides and currents. An oil spill risk assessment for Grays Harbor is also provided in this section. The area covered includes shorelines of the Pacific Coast adjacent to Grays Harbor, the Grays Harbor entrance, Oyhut Sink, Grays Harbor, North Bay, South Bay, Bowerman Basin, and the rivers and creeks in the area that drain into Grays Harbor.

▼ Open to read more

### Physical Features

The Grays Harbor estuary is approximately 15 miles across at its widest point and narrows in some places to less than 100 yards; its entrance from the Pacific Ocean is approximately 2.5 miles wide. The estuary is a drowned portion of the Chehalis River Valley, and it is continually filled in with river-borne sediments as well as marine deposits. These build up as intertidal mud and sand flats, which make up the area's predominant physical feature. The three corners of the estuary are defined by the mouth of the Chehalis River to the east, the North Bay, and the South Bay. The North Bay receives waters from the Humptulips River; South Bay draws from the Elk and Johns Rivers and numerous tributaries. The major islands of the estuary are Goose and Sand Islands in North Bay; Whitcomb, Grass, and Laidlaw Islands in South Bay; and Rennie Island near the mouth of the Chehalis River. Bowerman Basin is located on the western side of Hoquiam. It is sheltered from Grays Harbor by a large peninsula occupied by Bowerman Field Airport. Shorelines inside Grays Harbor consist primarily of marsh and sheltered tidal flats, while coastal shorelines along the Pacific Ocean west of Grays Harbor are mainly fine-grained sandy beaches.

All GRPs are being reformatted to enhance usability and accessibility.

The new online format allows users to easily scroll through text-heavy narrative sections while maintaining the valuable PDF format of the response-oriented sections like Response Options and Considerations and the 2-Pagers.

Also included in this format update are the specific NFO considerations. For marine GRPs, we have identified area-specific NFO considerations where NFOs may pose a heightened risk. For inland GRPs, NFO considerations, modeling, and other related information is consolidated in an interactive map we developed as a new non-floating oil response tool.

# QUESTIONS?

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